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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/384,380 08/27/99 TASAKA

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH VA 22040-0747

EXAMINER

LEE, R

ART UNIT

PAPER NUMBER

1713

DATE MAILED:

08/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/384,380

Applicant(s)

TASAKA ET AL.

Examiner

Rip A. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 1,2,4,8, and 10-14 is/are objected to.
- 8) ☒ Claims 1-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8 and 10-15, drawn to a composition for fire retardant material, classified in class 525, subclass 196.
 - II. Claim 9, drawn to an optical fiber wire, classified in class 385, subclass 102.

The inventions are distinct, each from the other for the following reasons:

2. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a flame retardant composition and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention. In the instant case, the flame retardant material can be used alone without incorporating it into an optic fiber wire.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Marc S. Weiner on August 22, 2001, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-8 and 10-15. Affirmation of this election must be made by applicant in replying to this Office action. Claim 9 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

7. Applicant is reminded that in order for a patent issuing on the instant application to obtain the benefit of priority based on priority papers filed in parent Application No. 10-245931 under 35 U.S.C. 119(a)-(d), a claim for such foreign priority must be made in this application. In making such claim, applicant may simply identify the application containing the priority papers.

Claim Objections

8. Claim 1 is objected to because of the following informalities: The claim states that the metal hydrate "...is being pretreated..." (p. 74, lines 2 and 6), implying that this occurs during the manufacture of the composition. Rather, the commercially available metal hydrate has been pretreated already. Appropriate correction is required.

9. Claims 2 and 10-14 are objected to for reasons discussed in paragraph 8.

10. Claims 4 and 8 are objected to because of the following informalities: The claims state that the silane compound has a "vinyl group and/or an epoxy group at its terminal." It is physically and chemically impossible for a terminus as such to contain both functionalities. Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

12. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,929,165 to Tasaka *et al.*

Tasaka *et al.* teach a thermoplastic elastomeric resin composition comprised of (a) 100 parts by weight of a block copolymer consisting of at least two polymeric blocks composed mainly of a vinyl aromatic compound and at least one polymeric block composed mainly of a conjugated diene, or a hydrogenated block copolymer obtained by hydrogenating said block copolymer, (b) 20 – 300 parts by weight of a non-aromatic softening agent for rubber, (c) 1 – 100 parts by weight of a peroxide-crosslinking olefinic resin, and (d) 10 – 150 parts by weight of a peroxide-decomposition olefinic resin (claim 1). Component (c) is a polyethylene homopolymer or an ethylene/alpha-olefin copolymer (col. 6, lines 26-36); component (d) is a polypropylene resin (col. 7, lines 27-34). The ethylenic component has a polymer density of 0.88 – 0.94 g/cm³ (col. 6, line 30). To this resin composition is added 0.1 – 3 parts by weight of an organic peroxide (col. 12, lines 25-43) and 0 – 100 parts by weight of a metal hydrate (col. 10, lines 1-7).

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The claim of the present invention indicates that the ethylene/alpha-olefin copolymer is “synthesized in the presence of a single site catalyst.” The statement bears no patentable weight since the patentability of a product claim rests on the product formed, not on the method by which it was produced. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1-3, 5-7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,929,165 to Tasaka *et al.* in view of U.S. Patent No. 5,221,781 to Aida *et al.*

Tasaka *et al.* teach a thermoplastic elastomeric resin composition comprised of (a) 100 parts by weight of a block copolymer consisting of at least two polymeric blocks composed mainly of a vinyl aromatic compound and at least one polymeric block composed mainly of a conjugated diene, or a hydrogenated block copolymer obtained by hydrogenating said block copolymer, (b) 20 – 300 parts by weight of a non-aromatic softening agent for rubber, (c) 1 – 100 parts by weight of a peroxide-crosslinking olefinic resin, and (d) 10 – 150 parts by weight of a peroxide-decomposition olefinic resin (claim 1). Component (c) is a polyethylene homopolymer or an ethylene/alpha-olefin copolymer (col. 6, lines 26-36); component (d) is a polypropylene resin (col. 7, lines 27-34). To this resin composition is added 0.1 – 3 parts by weight of an organic peroxide (col. 12, lines 25-43) and 0.1 – 10 parts by weight of a crosslinking auxiliary, of which triethyleneglycol dimethacrylate is exemplary (col. 12, lines 4 to col. 13, line 7). The use of an inorganic filler in the amount of 0 – 100 parts by weight is also disclosed, and metal hydrates such as magnesium hydroxide may be used (col. 10, lines 1-7). The composition may be prepared by any conventional means (col. 13, line 30-34). In one embodiment, the

thermoplastic components are melt-kneaded prior to addition of the auxiliary components, followed by further mixing (col. 13, lines 35-50). The order of addition of the metal hydrate is irrelevant (col. 14, line 46). The prior art meets all the requirements set forth in the claims of the present invention, except for the use of surface treated magnesium hydroxide in the formulation.

Aida *et al.* teach the incorporation of fillers into thermoplastic resin compositions in order to impart flame retardant properties to the material. The thermoplastic, comprised of peroxide-crosslinking and peroxide-decomposition polyolefinic resins (col. 2, lines 22-37), is crosslinked with ethyleneglycol dimethacrylate (col. 5, lines 47-60), and may be softened with paraffinic oils (col. 8, lines 33-43). Magnesium hydroxide is compatible with all of the aforementioned components, and it may be incorporated into the mixture to render it flame retardant (claim 9).

The suggestion is made to surface treat the inorganic component with a silane coupling agent (col. 6, line 15). As it is well known in the art, coupling agents permit inorganic components to be bound to polymer such that a uniform dispersion of the inorganic component throughout the resin can be attained. Therefore, it would have been obvious to one having ordinary skill in the art to follow the suggestion of Aida *et al.* and use magnesium hydroxide that is pretreated with a silane coupling agent (in lieu of magnesium hydroxide alone) in the invention of Tasaki *et al.* to arrive at the claims of the present invention.

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17. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tasaka *et al.* in view of U.S. Patent No. 6,218,454 to Nosu *et al.*

The discussion of the disclosures of the prior art of Tasaka *et al.* from paragraph 16 of this office action is incorporated here by reference. In summary, the prior art meets all the requirements set forth in the claims of the present invention, except for the use of surface treated magnesium hydroxide in the formulation.

Nosu *et al.* teach the use of magnesium hydroxide surface treated with silanes for imparting flame and acid resistance in thermoplastic resin compositions (claim 1). The reference teaches, for polyolefin based thermoplastic compositions in particular, that the silane coupling agent is to contain a vinyl or epoxy terminus (col. 3, lines 23-31). As it is well known in the art, coupling agents permit inorganic components to be bound to polymer such that a uniform dispersion of the inorganic component throughout the resin can be attained. Therefore, it would have been obvious to one having ordinary skill in the art to replace the magnesium hydroxide in the invention of Tasaka *et al.* with that which has been pretreated with a vinylsilane coupling agent (as per Nosu *et al.*) in order to arrive at the claims of the present invention.

18. The prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure.

U.S. Patent No. 5,132,350 to Keogh

U.S. Patent No. 6,043,306 to Imihashi *et al.*

U.S. Patent No. 5,936,037 to Tasaka *et al.*

U.S. Patent No. 5,378,539 to Chen

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (703)306-0094. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (703)308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3599. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

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August 23, 2001

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